

Appl. No. 10/022,027
Atty Docket No. 8711RR
Response dated June 25, 2004
Reply to Office Action dated April 28, 2004

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Withdrawn) A coated portion of a vehicle surface comprising:

a portion of a surface of a vehicle; and

a coating film on said portion of the surface of the vehicle, said coating film comprising a plurality of non-photoactive nanoparticles in an amount less than $3 \mu\text{g}/\text{cm}^2$ of the area of said portion of said surface.
2. (Withdrawn) The coated portion of a vehicle surface of Claim 1 wherein said coating film has an exposed first surface and a second surface adjacent the portion of the surface to which it is applied, wherein said first surface of said film is hydrophilic.
3. (Withdrawn) The coated portion of a vehicle surface of Claim 1 wherein said coating film is less than 300 nanometers thick.
4. (Withdrawn) The coated portion of a vehicle surface of Claim 1 wherein said coating film is comprised of: said non-photoactive nanoparticles, a wetting agent, and water.
5. (Withdrawn) The coated portion of a vehicle surface of Claim 1 wherein at least some of said non-photoactive nanoparticles comprise at least one synthetic mineral.
6. (Withdrawn) The coated portion of a vehicle surface of Claim 1 wherein at least some of said non-photoactive nanoparticles comprise smectite.
7. (Withdrawn) The coated portion of a vehicle surface of Claim 1 wherein at least some of said non-photoactive nanoparticles comprise hectorite.
8. (Withdrawn) The coated portion of a vehicle surface of Claim 1 wherein at least some of said non-photoactive nanoparticles comprise fluorohectorite.
9. (Withdrawn) The coated portion of a vehicle surface of Claim 4 wherein said coating film comprises a non-functional level of binder material.
10. (Withdrawn) The coated portion of a vehicle surface of Claim 4 wherein said coating film comprises less than 3% peptizer.

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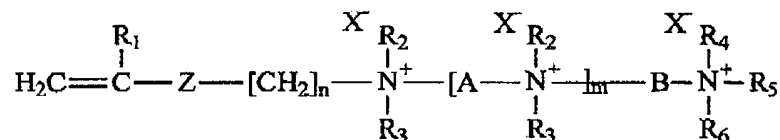
11. (Withdrawn) A method of forming a surface coating film for at least partially covering a surface of a vehicle, said method comprising:
 - (a) locating a vehicle with at least one surface;
 - (b) depositing an aqueous composition comprising a plurality of non-photoactive nanoparticles and a wetting agent on at least a portion of the surface of said substrate, said non-photoactive nanoparticles being deposited in an amount less than $3 \mu\text{g}/\text{cm}^2$ of the area of the surface; and
 - (c) allowing said composition to dry without rinsing or agitating the same so that a substantially clear, hydrophilic coating is formed on said at least a portion of said surface.
12. (Withdrawn) The method of Claim 11 wherein said at least some of said nanoparticles are disc-shaped or platelet-shaped, and said disc-shaped or platelet-shaped nanoparticles have at least one dimension that is greater than or equal to about 0.5 nanometers, and an aspect ratio is greater than or equal to about 15.
13. (Withdrawn) The method of Claim 11 wherein said at least some of said nanoparticles are rod-shaped, and said rod-shaped nanoparticles have at least one dimension that is greater than or equal to about 0.5 nanometers, and an aspect ratio is greater than or equal to about 3.
14. (Withdrawn) The method of Claim 11 wherein said coating is less than 300 nanometers thick.
15. (Withdrawn) The method of Claim 11 wherein when said coating at least partially covers a surface that has an initial specular gloss reading before said composition is applied of greater than or equal to 10 at 60° geometry, said surface with said coating thereon has less than or equal to a 10% reduction in specular gloss value when measured at the geometry specified in the Specular Gloss test.
16. (Withdrawn) The method of Claim 11 wherein when said coating at least partially covers a surface that has an initial specular gloss reading before said composition is applied of less than 10 at 60° geometry, said surface with said coating thereon has an increase of greater than or equal to a 10% in specular gloss value when measured at the geometry specified in the Specular Gloss test.

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17. (Withdrawn) The method of Claim 11 wherein said composition is deposited by spraying the composition onto the surface.
18. (Withdrawn) The method of Claim 17 wherein said composition is sprayed onto the surface by an electrostatic sprayer.
19. (Withdrawn) The method of Claim 11 wherein the step (b) of depositing said composition on the surface forms a wet film on at least a portion of said surface.
20. (Withdrawn) The method of Claim 11 wherein the step (b) of depositing an aqueous composition on at least a portion of the surface of said substrate forms a wet film on said portion of the surface of said substrate, and said wet film has less than 61 defects of a size greater than or equal to 1.75 mm per 100 cm² of the surface as measured at any time more than 30 seconds after the wet film is formed on said surface.
21. (Withdrawn) The method of Claim 11 wherein the visual score of the coating formed in step (c) is greater than or equal to (-2).
22. (Previously Presented) A method for cleaning a surface of a vehicle, said method comprising the steps of:
 - (a) applying a cleaning solution to the surface of a vehicle, said cleaning solution comprising a polymer which renders the surface hydrophilic;
 - (b) optionally agitating the cleaning solution after applying the cleaning solution to the surface of the vehicle to loosen dirt on the surface of the vehicle;
 - (c) rinsing the surface of the vehicle with tap water to remove at least some of the cleaning solution; and
 - (d) at least partially removing at least some residue-forming substances remaining on the surface of the vehicle, if any residue-forming substances remain on the surface of the vehicle, by rinsing the surface of the vehicle with purified rinse water using a hose-end water purifying device.
23. (Previously Presented) The method of Claim 22 wherein said cleaning solution comprises at least one water-soluble or water dispersible copolymer comprising, in the form of polymerized units

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- (1) at least one monomer compound of general formula I:



in which:

- R₁ is a hydrogen atom or a methyl or ethyl group;
- R₂, R₃, R₄, R₅ and R₆, which are identical or different, are linear or branched C₁-C₆;
- m is an integer from 0 to 10;
- n is an integer from 1 to 6;
- Z represents a -C(O)O- or -C(O)NH- group or an oxygen atom;
- A represents a (CH₂)_p group, p being an integer from 1 to 6;
- B represents a linear or branched C₂-C₁₂ polymethylene chain optionally interrupted by one or more heteroatoms or heterogroups, and optionally substituted by one or more hydroxyl or amino groups;
- X⁻, which are identical or different, represent counterions;

- (2) at least one hydrophilic monomer carrying an acidic functional group which is copolymerizable with (1);

- (3) optionally at least one monomer compound with ethylenic unsaturation with a neutral charge which is copolymerizable with (1) and (2).

Claim 24 (Canceled)

25. (Previously Presented) The method of Claim 23 wherein said at least one water-soluble or water dispersible copolymer is added to the rinse water used in step (c), to said purified rinse water used in step (d), or to both.
26. (Previously Presented) The method of Claim 22 wherein said cleaning composition comprises a silicone surfactant.

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27. (Previously Presented) A method for cleaning a surface of a vehicle, said method comprising the steps of:

- (a) providing a spray device that is configured to be connected to the end of a garden hose and held by a user's hand, wherein said spray device comprises: a compartment containing a cleaning solution; a water purifier; and a valve system having settings for a washing step, a unpurified water rinsing step, and a purified water rinsing step;
- (b) applying said cleaning solution to the surface of a vehicle using said spray device, said cleaning solution comprising a polymer which renders the surface hydrophilic;
- (c) optionally agitating the cleaning solution after applying the cleaning solution to the surface of the vehicle to loosen dirt on the surface of the vehicle;
- (d) rinsing the surface of the vehicle with tap water using the spray device with the valve system set on the unpurified rinse setting to remove at least some of the cleaning solution; and
- (e) at least partially removing at least some residue-forming substances remaining on the surface of the vehicle, if any residue-forming substances remain on the surface of the vehicle, by rinsing the surface of the vehicle with purified rinse water using the spray device with the valve system set on the purified rinse setting.

28. (Currently Amended) The method of Claim 28 27 wherein said water purifier comprises a structure comprised of two cylindrical portions, each having axes, that are joined together along portions that are oriented in the direction of their axes.

29. (Previously Presented) The method of Claim 28 wherein each of said cylindrical portions contains ion exchange resin, and one of said cylindrical portions contains strong acid cation ion exchange resin and the other cylindrical portion contains weak base anion ion exchange resin.

30. (Previously Presented) The method of 27 wherein during step (e), a plurality of beads appear on the surface of the vehicle and continuously sheet off the surface of the vehicle.